

0050



Canyon Fuel
Company, LLC.
Skyline Mine

A Subsidiary of Arch Western Bituminous Group, LLC.

Gregg Galecki, Environ. Coordinator
HCR 35, Box 380
Helper, UT 84526
(435) 448-2636 - Office
(435) 448-2632 - Fax

Incoming
C007005
cc: Dana Dean

June 12, 2006

Ms. Pam Grubaugh-Littig
Permit Supervisor
Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84114-5801

RE: Modification to Water Monitoring Tables, Canyon Fuel Company, LLC, Skyline Mine,
C/007/005,

Dear Ms. Grubaugh-Littig:

Please find enclosed with this letter modifications to the Skyline Mine M&RP addressing the Water Monitoring program. The modifications have been discussed in detail with Ms. Dana Dean and she is anticipating this response. In addition, the following discussions are provided to serve as the basis for modifications to the Water Monitoring program, where an explanation in the M&RP is either not necessary or appropriate to discuss.

Analysis of Oil and Grease (O&G) at sites CS-12, CS-13, CS-14, CS-6, CS-11 and CS-9 was eliminated to reduce redundancy. CS-12, CS-13, and CS-14 are already reported at both sample sites UPDES-001 and MD-1. CS-6 is adequately covered with VC-9 which is located a few hundred yards downstream of CS-6. CS-11 is better covered by CS-4 since it is collected immediately below the road (the only O&G influence above the mine). CS-9 was eliminated since it isn't located in an area to potentially contribute O&G.

Analysis of Dissolved Oxygen (DO) has been scaled back to be sampled only on Eccles Creek. Dissolved Oxygen is a parameter most-useful on active streams. The only active stream in the Permit area where mining could realistically affect DO is in Eccles Creek. Historically, DO has only been sampled in Eccles Creek and those same sites are recommended at this time: CS-3, CS-4 (both above the mine), VC-6, and VC-9 (both below the mine) will provide adequate monitoring for Dissolved Oxygen.

The suite of baseline parameters recommended in the Coal Regulatory Technical Directive 004 has historically been collected in the Skyline Water Monitoring program annually during the 3rd quarter. The 20+ years of baseline-suite data is more than adequate to characterize any overall change in water chemistry. Appendix A, Table 1 of Technical Directive 004 recommends baseline sampling every five (5) years during the Operational phase of the Mine Plan. The current M&RP text has been modified to indicate baseline sampling will be collected every five (5) years based on this reasoning.

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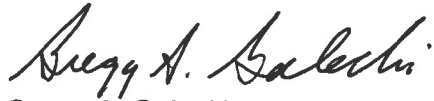
JUN 13 2006

DIV. OF OIL, GAS & MINING

This submittal includes completed C1 and C2 forms, one redline/strikethrough copy, and eight (8) copies of modified text.

If you have any questions, please call me at (435) 448-2636.

Sincerely,

A handwritten signature in black ink, reading "Gregg A. Galecki". The signature is written in a cursive style with a large, stylized "G" and "A".

Gregg A. Galecki
Environmental Coordinator, Skyline Mine
Canyon Fuel Company, LLC

enclosures

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change ☒ New Permit ☐ Renewal ☐ Exploration ☐ Bond Release ☐ Transfer ☐

Permittee: Canyon Fuel Company, LLC

Mine: Skyline Mine

Permit Number: C/007/005

Title: Water Monitoring Table modifications

Description, Include reason for application and timing required to implement:

Modification to the M&RP Water Monitoring Program; Sections 2.3 and Section 2.4

Instructions: If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

- ☐ Yes ☒ No 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ ☐ increase ☐ decrease.
- ☐ Yes ☒ No 2. Is the application submitted as a result of a Division Order? DO# _____
- ☐ Yes ☒ No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
- ☐ Yes ☒ No 4. Does the application include operations in hydrologic basins other than as currently approved?
- ☐ Yes ☒ No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
- ☐ Yes ☒ No 6. Does the application require or include public notice publication?
- ☐ Yes ☒ No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
- ☐ Yes ☒ No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
- ☒ Yes ☐ No 9. Is the application submitted as a result of a Violation? NOV # N06-39-3-1
- ☐ Yes ☒ No 10. Is the application submitted as a result of other laws or regulations or policies?

Explain: _____

- ☐ Yes ☒ No 11. Does the application affect the surface landowner or change the post mining land use?
- ☐ Yes ☒ No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
- ☐ Yes ☒ No 13. Does the application require or include collection and reporting of any baseline information?
- ☐ Yes ☒ No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
- ☐ Yes ☒ No 15. Does the application require or include soil removal, storage or placement?
- ☐ Yes ☒ No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
- ☐ Yes ☒ No 17. Does the application require or include construction, modification, or removal of surface facilities?
- ☒ Yes ☐ No 18. Does the application require or include water monitoring, sediment or drainage control measures?
- ☐ Yes ☒ No 19. Does the application require or include certified designs, maps or calculation?
- ☐ Yes ☒ No 20. Does the application require or include subsidence control or monitoring?
- ☐ Yes ☒ No 21. Have reclamation costs for bonding been provided?
- ☐ Yes ☒ No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
- ☐ Yes ☒ No 23. Does the application affect permits issued by other agencies or permits issued to other entities?

Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you. (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

Wesley K Sorensen
Print Name

Wesley K Sorensen
Sign Name, Position, Date

Subscribed and sworn to before me this 12 day of JUNE, 2006

General Manager 6/12/06

Notary Public

My commission Expires:

Attest: State of Utah 12-2-2007) ss:
County of Carbon



For Office Use Only:

Assigned Tracking
Number:

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DIV. OF OIL, GAS & MINING

APPLICATION FOR COAL PERMIT PROCESSING
Detailed Schedule Of Changes to the Mining And Reclamation Plan

Permittee: Canyon Fuel Company, LLC

Mine: Skyline Mine

Permit Number: C/007/005

Title: Modifications to the M&RP Water Monitoring Program; Sections 2.3 and Section 2.4

Provide a detailed listing of all changes to the Mining and Reclamation Plan, which is required as a result of this proposed permit application. Individually list all maps and drawings that are added, replaced, or removed from the plan. Include changes to the table of contents, section of the plan, or other information as needed to specifically locate, identify and revise the existing Mining and Reclamation Plan. Include page, section and drawing number as part of the description.

DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED☐ Add ☒ Replace ☐ Remove

Replace pages 2-34, 2-35a, and 2-37 in Section 2.3

☐ Add ☐ Replace ☐ Remove☐ Add ☒ Replace ☐ Remove

Replace page 2-46 in Section 2.4

☐ Add ☐ Replace ☐ Remove

Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.

One(1) redline/strikethrough and eight (8) clean copies submitted

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In other than the stated years, 3rd Quarter sampling will be identical to 2nd and 4th Quarter laboratory analyses. 4th Quarter monitoring (October-December) should be conducted prior to December due to snow conditions eliminating access. ~~Except where noted, samples are obtained at the monitoring sites three times a year. The monitoring periods are defined by the seasons. Samples are collected during the high flow season, April through June and the low flow season in August through September.~~

Revised 06/09/2006

2-33

~~Late fall samples are obtained in October through November. These time periods were selected because the sites are usually inaccessible until late June and after November due to snow depth and frozen water courses. Several sites on Eccles Creek are monitored in December through February since they are adjacent to a maintained road and the water discharged from the mine normally keeps the stream from freezing over.~~

Water quality samples are collected from the 25 selected springs in the project area. The samples are comprehensively analyzed each year for the parameters listed in Table 2.3.7-1 and Table 2.3.7-2. All water samples collected for use in this permit have been collected and analyzed according to methods in either the "Standard Methods for the Examination of Water and Wastewater" or the 40 CFR parts 136 and 434. A listing identifying the station types is shown on Table 2.3.7-3.

In addition to the collection of the outlined water quality data, water level data has been collected from each of the wells (if functional) as scheduled on Tables 2.3.7-1, 2.3.7-2, ~~2.3.7-2A~~ and 2.3.7-3, and noted on Plate 2.3.6-1. Water quality samples will be collected from the Waste Rock Disposal Site Well 92-91-03. ~~in accordance with the schedule and parameter list shown on Table 2.3.7-5.~~ Summary information on these observation wells is found on Table 2.3.7-4. ~~Three~~Four wells, W79-10-1A, 79-14-2B and 79-22-2-1 and 79-22-2-2 have experienced casing failures, and are currently nonfunctional. There are no plans to replace these wells.

The amount of water discharged from each mine on each monitoring occasion will also be monitored at the mine mouth through the use of a totalizing flow meter or similar device. Significant changes in the source of water in the mine will be noted during the period of

completed in August 2002. ~~but the interim report is not yet available. Skyline will submit this first and subsequent first progress reports for this project with its annual reports.~~ Annual updates to the study have been submitted with the annual reports. This study concluded after the 2005 information was submitted based on the initial parameters of the study which indicated the study would last through one (1) year after discharge from the mine decreased to a sustained flow less than 5,000 gpm. The last stability analysis was conducted in Fall 2005 and the last water monitoring was conducted in 1st Quarter 2006.

Samples obtained at the MC-sites ~~will be~~ were monitored for total flow, TDS, TSS, and total phosphorous. In addition a stream stability cross-section and reach survey ~~will be~~ was conducted approximately 75 yards downstream of the MC-6 monitoring location. The results of these analyses ~~will be~~ were reported with the other mine water quality monitoring reports while the study was being conducted (2002-2005).

Sites MD-1, JC-1, JC-3, and ELD-1 were also added to the monitoring site list. MD-1 is a composite sample of the all the water discharged from Skyline Mine to Eccles Creek. JC-1 and JC-3 are samples of the water discharged from the two James Canyon ground and mine dewatering wells. ELD-1 reports the total flow-only from both JC-1 and JC-3. MD-1 and ELD-1 are monitored for total flow and the results are reported to the Division on a monthly basis. Quarterly, MD-1, JC-1, and JC-3 are also monitored for TSS, TDS, and total phosphorous. Since JC-3 is a PacifiCorp UPDES site, it is monitored each month for flow, TSS, TDS, oil and grease, and total iron. The UPDES sampling results are forwarded to the Division monthly.

Spring monitoring sites WQ1-39, WQ3-6, WQ3-26, WQ3-41 WQ3-43, and WQ4-12 were added to the permit. Surface water sites CS-19, CS-20, and CS-21 were added as were wells 91-26-1 and 91-35-1. All of these sites are in the North Lease area. Location of these samples sites are illustrated on Drawing 2.3.6-1.

Skyline Mine has also obtained numerous water samples from within the mine for age-dating purposes. Samples have been analyzed for both stable and unstable isotopes; the majority being analyzed for tritium and carbon 14 content. The analyses results of these samples is discussed in detail in the July 2002 Addendum to the PHC. The results

Table 2.3.7-2
Water Quality Analytical Schedule
~~Streams and Springs-~~
~~High Spring (April - June);~~
~~Late Fall (October - November); and~~
~~Winter (December - February) Flows~~

Field Measurements

Flow ~~or Depth to Water~~

pH

Specific Conductance

~~Temperature, Air~~

Temperature, Water

~~Turbidity~~

Laboratory Measurements

~~Ammonia~~

Bicarbonate

~~Carbonate~~

Calcium, dissolved

Chloride

Iron, Total ~~and dissolved~~

Magnesium, dissolved

Manganese, total ~~and dissolved~~

Nitrate + Nitrite

~~Phosphate (Orthophosphate)~~ Phosphorus, Total

Potassium, dissolved

Sodium, dissolved

Sulfate

Total Alkalinity

Total Hardness

Total Suspended Solids

Total Dissolved Solids

Cation / Anion balance

Baseline Laboratory Measurements

Acidity

Alkalinity, Total

Barium, dissolved

Boron, dissolved

Bicarbonate

Calcium, dissolved

Carbonate

Cation / Anion balance

Chloride

Copper, dissolved

Hardness, Total

Iron, Total and dissolved

Lead, dissolved

Magnesium, dissolved

The volume of water discharged from the mine increased significantly in August 2002 after large volumes of ground water were encountered within the mine. The mine was concerned about what effects the increased flows might have on Eccles and Mud Creeks. EarthFax Engineering, Inc. was contracted to perform a stream bank stability analysis on the streams using flows ranging between 5,000 and 30,000 gpm. The initial results of the report indicated that the stream banks would be stable at flows up to 30,000 gpm. Further study was requested by the Division and EarthFax was again contracted to continue the study of the effects on Mud and Eccles Creeks of sustained increased discharges from the Skyline Mine. The study will continue as long as the mine is discharging flows in excess of the pre-September 2001 rates plus one year. Mine discharge decreased below a sustained 5,000 gpm in December 2003. The last update was submitted with the 2005 Annual Report. The study consisted of the following:

Reference sites ~~have been~~ were established on Eccles and Mud Creeks corresponding to cross sections used in previous investigations (EarthFax Engineering, 2002) and were monitored from 2002 through 2005. The reference sites were established in general conformance to the recommendations of Harrelson et al. (1994). This involved the following:

- Establishing benchmarks at each site. Benchmarks will consist of cement or boulder monuments, with a metal marker stamped with the site number.
- Establishing monumented cross sections. The endpoints of cross sections will be marked with roof bolts or steel reinforcing bar that has been driven into the ground. These bars will be painted to increase visibility.
- Surveying the channel at each site. Surveying will be performed using a level and survey rod, with both the cross section and longitudinal profile of the stream being surveyed.

analyses is conducted during the 3rd Quarter (July-September) every five (5) years beginning in 2010 and successively in 2015, 2020, 2025, etc. In other than the stated years, 3rd Quarter sampling will be identical to 2nd and 4th Quarter laboratory analyses. 4th Quarter monitoring (October-December) should be conducted prior to December due to snow conditions eliminating access.

Water quality samples are collected from the 25 selected springs in the project area. The samples are comprehensively analyzed each year for the parameters listed in Table 2.3.7-1 and Table 2.3.7-2. All water samples collected for use in this permit have been collected and analyzed according to methods in either the "Standard Methods for the Examination of Water and Wastewater" or the 40 CFR parts 136 and 434. A listing identifying the station types is shown on Table 2.3.7-3.

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The amount of water discharged from each mine on each monitoring occasion will also be monitored at the mine mouth through the use of a totalizing flow meter or similar device. Significant changes in the source of water in the mine will be noted during the period of operation. Underground water pumped from each mine will be monitored for water quality. Mine #1 discharge is sampled at Station CS-14. Mine #3 discharge is sampled at Station CS-12. Mine #2 water is discharged at JC-3.

completed in August 2002. Annual updates to the study have been submitted with the annual reports. This study concluded after the 2005 information was submitted based on the initial parameters of the study which indicated the study would last through one (1) year after discharge from the mine decreased to a sustained flow less than 5,000 gpm.

Samples obtained at the MC-sites were monitored for total flow, TDS, TSS, and total phosphorous. In addition a stream stability cross-section and reach survey was conducted approximately 75 yards downstream of the MC-6 monitoring location. The results of these analyses were reported with the other mine water quality monitoring reports while the study was being conducted (2002-2005).

Sites MD-1, JC-1, JC-3, and ELD-1 were also added to the monitoring site list. MD-1 is a composite sample of the all the water discharged from Skyline Mine to Eccles Creek. JC-1 and JC-3 are samples of the water discharged from the two James Canyon ground and mine dewatering wells. ELD-1 reports the total flow-only from both JC-1 and JC-3. MD-1 and ELD-1 are monitored for total flow and the results are reported to the Division on a monthly basis. Quarterly, MD-1, JC-1, and JC-3 are also monitored for TSS, TDS, and total phosphorous. Since JC-3 is a PacifiCorp UPDES site, it is monitored each month for flow, TSS, TDS, oil and grease, and total iron. The UPDES sampling results are forwarded to the Division monthly.

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Skyline Mine has also obtained numerous water samples from within the mine for age-dating purposes. Samples have been analyzed for both stable and unstable isotopes; the majority being analyzed for tritium and carbon 14 content. The analyses results of these samples is discussed in detail in the July 2002 Addendum to the PHC. The results of repeated tritium sampling and analysis in a few location in the mine, specifically those in the 9 and 10 Left panel areas that began in August 2001, suggest that the majority of the water is not younger than 50 years. Only a few carbon 14 samples have been obtained from these

Table 2.3.7-2
Water Quality Analytical Schedule

Field Measurements

Flow or Depth to Water
pH
Specific Conductance
Temperature, Water

Laboratory Measurements

Bicarbonate
Carbonate
Calcium, dissolved
Chloride
Iron, Total
Magnesium, dissolved
Manganese, total
Nitrate + Nitrite
Phosphorus, Total
Potassium, dissolved
Sodium, dissolved
Sulfate
Total Alkalinity
Total Hardness
Total Suspended Solids
Total Dissolved Solids
Cation / Anion balance

Baseline Laboratory Measurements

Acidity
Alkalinity, Total
Barium, dissolved
Boron, dissolved
Bicarbonate
Calcium, dissolved
Carbonate
Cation / Anion balance
Chloride
Copper, dissolved
Hardness, Total
Iron, Total and dissolved
Lead, dissolved
Magnesium, dissolved
Manganese, Total and dissolved
Nitrate + Nitrite
Phosphorus, Total
Potassium, dissolved
Sodium, dissolved
Sulfate
Total Suspended Solids
Total Dissolved Solids

study will continue as long as the mine is discharging flows in excess of the pre-September 2001 rates plus one year. Mine discharge decreased below a sustained 5,000 gpm in December 2003. The last update was submitted with the 2005 Annual Report. The study consisted of the following:

Reference sites were established on Eccles and Mud Creeks corresponding to cross sections used in previous investigations (EarthFax Engineering, 2002) and were monitored from 2002 through 2005. The reference sites were established in general conformance to the recommendations of Harrelson et al. (1994). This involved the following:

- Establishing benchmarks at each site. Benchmarks will consist of cement or boulder monuments, with a metal marker stamped with the site number.
- Establishing monumented cross sections. The endpoints of cross sections will be marked with roof bolts or steel reinforcing bar that has been driven into the ground. These bars will be painted to increase visibility.
- Surveying the channel at each site. Surveying will be performed using a level and survey rod, with both the cross section and longitudinal profile of the stream being surveyed.
- Establishing photo points. As recommended by Harrelson et al. (1994), convenient locations will be selected to take photographs upstream, downstream, and across the channel at each cross section location.
- Collecting streamflow data. The flow will be measured at each site, using standard procedures, with a rotating-cup flow meter. Indicators of bankfull stage will also be gathered.

Samples of the bed and bank materials were collected at the newly established stations to evaluate geomorphic and stability relationships at those locations. Similar samples were collected in February 2002 at the remaining sites (EarthFax Engineering, 2002) and are still considered valid.